

## Special Issue

# Substance Use and Addiction: From Molecular Mechanisms to Treatment

### Message from the Guest Editors

Substance use disorders constitute a critical global health challenge. Within neuroscientific and medical contexts, “substances” refer to psychoactive agents that physiologically alter mental states, and these compounds have been studied progressively in relation to use disorders, distinguished between therapeutic, recreational, and pathological patterns. Understanding these conditions requires examination of the reward circuitry—particularly the mesolimbic dopaminergic pathways—and neuroadaptive mechanisms, including receptor desensitization, synaptic remodeling, and tolerance development.

Nonetheless, critical challenges persist. Limited treatment efficacy and a high relapse rate reflect inadequate clinical translation. Advancing detailed mechanistic understanding may enhance personalized paradigms. Thus, the aim of this Special Issue is to bridge knowledge gaps through integrative translational frameworks addressing substance use disorders.

### Guest Editors

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### Deadline for manuscript submissions

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## Brain Sciences

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